

A Semi-Automatic ICD Encoder

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Accessing standard codes with numbers and keywords will be more and more considered a waste of time. We demonstrate a natural language-based ICD encoding system which considerably alleviates the burden of coding with ICD classification and enhances the quality of the final list of diagnoses. This tool, delivered on a PC platform, is highly convivial and provides a versatile interface to any existing application based on the Microsoft Windows standards.

The main characteristics of this tool include the following :

It is fast and user-friendly

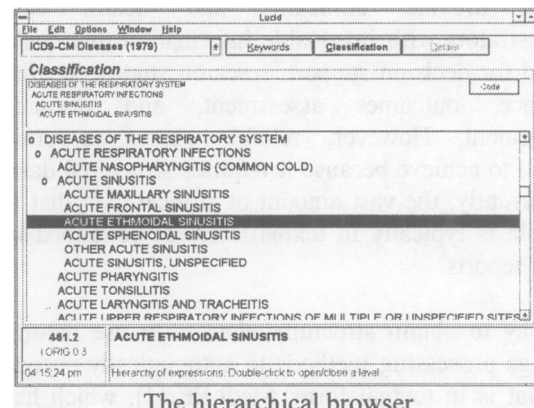
One of the main requirements imposed by clinicians was to avoid wasting time for the encoding task. Loading the programme into the memory takes only a few seconds. The recognition of words is performed in real time whilst typing and can also be used as an on-line background spelling checker. After the selection of pertinent words performed by the user, the process of retrieving relevant ICD controlled expressions is almost immediate.

The program uses all the features of the MS Windows interface, including communications protocols (Clipboard and OLE). On-line and contextual help is available. The encoder includes a lexical browser that allows the user to access the ICD codes through natural language as well as a graphical hierarchical browser. Direct access to the ICD expressions by code is also provided. These browsers are coupled so that switching from one to the other retains the link regarding any specific diagnosis. It appears to be extremely useful to be able to select a diagnosis by a lexical argument and then to open the ICD hierarchy precisely at the location of this diagnosis where siblings can be shown. Synonyms, abbreviations, acronyms as well as morphological analyses and knowledge

representation have been used to increase the power of the analyser.

It is multilingual and supports many classifications

French and English are supported for the programme interface, the lexical analysis and for the ICD coding expressions. Users can



dynamically switch from one language to the other without having to restart the application. Presently, ICD9, ICD-9 CM as well as ICD10 are supported in the French version and ICD9-CM in English, ICD10 is also supported in German and Dutch. It must be noted that all classifications and languages are supported in the same run-time software and can be dynamically changed.

Conclusion

An experiment on acceptance, involving all clinicians, has been successfully carried out at the Geneva University Hospital since January 1996. To a certain extent, this is because the encoding task has proved to be less time consuming and less burdensome than expected. A significant improvement in the precision and completeness of the list of diagnoses has been made, making it possible for the physician to directly code his diagnosis independently.